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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,934	07/11/2003	Shai Abramson	62731	3965

27148 7590 11/17/2005

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EXAMINER	
MARC, MCDIEUNEL	
ART UNIT	**PAPER NUMBER**
3661	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,934	ABRAMSON ET AL.	
	Examiner	Art Unit	
	McDieunel Marc	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/27/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *38-67* is/are allowed.

6)☒ Claim(s) *1,5-10,15-22,26-28 and 33-61* is/are rejected.

7)☒ Claim(s) *2-4,11-14,23-25 and 29-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-67 are presented fore examination.

2. The rejection to claims 1, 5-10, 15-22, 26-28 and 33-37 under 35 U.S.C. 102(e) as being anticipated by **Song *et al.*** (U.S. Pat. No. **6,748,297**) is **maintained**.

The objection to claims 2-4, 11-14, 23-25 and 29-32, is **maintained**.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 5-10, 15-22, 26-28 and 33-61 are rejected under 35 U.S.C. 102(e) as being anticipated by **Song *et al.*** (U.S. Pat. No. **6,748,297**).

As per claim 1, Song *et al.* teaches a " robot cleaner system having external charging apparatus and method for docking with the charging apparatus" includes an autonomous robot (see fig. 1, element 1) comprising: a system for moving the robot over a surface (see fig. 1); a power system for providing power to the robot (see fig. 1, element 50), the power system including at least one sensor for detecting power levels (see fig. 1, element 51); and a control system in communication with the moving system (see fig. 1, elements 60 and 10), and the power system (see fig. 1, element 80), the control system including a processor programmed to (see fig. 2, element 40): monitor the power level of the power system (see fig. 2, element 52, which being considered as detecting/monitoring); initiate a docking process for the robot to return to a docking station when the power level has fallen to a first a predetermined level (see col. 5, lines 30-48 *et seq.*); and continue the docking process by causing the robot to move toward the docking station (see col. , lines 48-55).

With respect to claims 18, 38 and 48, Song *et al.* also teaches a docking station for an autonomous robot (see fig. 1) comprising: at least one transmitter for transmitting a docking beam; locating at least one signal for the docking station; also confirming that the at least one signal (see fig. 1, particularly the line from the docking to the robot being considered as a beam), the docking beam including at least a first portion of a first range and a second portion of a second range (first rang being considered as short/not connected; and second range being considered as connected); and at least one contact member configured for receiving a corresponding contact member on a robot in a docking contact (see fig. 1, elements 54 and 80 and col. 6, lines 48-59).

With respect to claim 22, Song *et al.* teaches an autonomous robot (see fig. 1) comprising: a system for moving the robot over a surface (see fig. 1); at least one

sensor for detecting a signal for a docking station (see fig. 1, element 54); a power system for providing power to the robot (see fig. 1 as described above), the power system including at least one sensor for detecting power levels (see fig. 1 as described above); and a control system in communication with the moving system (see fig. 1 as described above), the at least one sensor for detecting the docking station signal(see fig. 1 as described above), and the power system (see fig. 1 as described above), the control system including a processor (see fig. 1 as described above) programmed to: monitor the power level of the power system (see fig. 1 as described above); initiate a docking process for the robot to return to a docking station when the power level has fallen to a first a predetermined level (see fig. 2 as described above); continue the docking process by: receiving at least one signal from the at least one sensor that a signal for a docking station has been detected (see fig. 2 as described above); and responding to the received at least one signal by causing the movement system to move the robot toward the docking station (see col. , lines 48-55).

As per claim 5, Song *et al.* teaches a robot additionally comprising: at least one sensor for detecting a docking beam (see fig. 1 as described above), the at least one sensor in communication with the control system and wherein (see fig. 2 as described above), the processor is additionally programmed to: cause the robot to seek a docking beam from a docking station by detecting it through the at least one sensor (see figs. 1-2 as described above).

As per claims 6 and 26, Song *et al.* teaches a robot, wherein the processor programmed to seek a docking beam from a docking station includes: receiving a first signal from the at least one sensor that docking beam has been detected and receiving a second signal from the at least one sensor confirming the detection of the docking beam (see fig. 1 and col. 1, lines 36-39), note that confirmation is inherent since the robot requires to sense the location of an external charging.

As per claims 7, 8, 36 and 37, Song *et al.* teaches a robot, wherein the at least one sensor includes a plurality of sensors (see fig. 1, element 56); said plurality of sensors include infrared light receivers (see col. 1, lines 36-38 and col. 2, lines 37-40), note that the means meets the IR limitation.

As per claims 9, 19 and 27, Song *et al.* teaches a robot additionally comprising, electrical contacts in communication with the power system and the control system for contacting corresponding contacts on a docking station and receiving electricity therethrough for charging the power system; additionally comprising a charging system for transporting electricity to the robot when the docking contact is made (see fig. 1 and col. 6, lines 48-59).

As per claims 10, 15, 28 and 33, Song *et al.* teaches a robot, wherein the power system includes at least one battery (see fig. 2, element 50 as described above); a processor programmed to monitor the power level of the power system includes monitoring battery voltage (see fig. 2, elements 40 and 52).

As per claims 16, 34, 46, 55, Song *et al.* teaches a robot performing vacuuming (see fig. 1 as described above).

As per claims 17, 35, 47, 56, Song *et al.* teaches a robot performing lawn mowing (see fig. 1, which being also considered a lawn mower).

As per claims 20 and 21, Song *et al.* teaches a robot, wherein the first range is a short range transmission; second rang/long range transmission (inherently, first range/short range has been considered closer to the docking and second range/long range has been considered as further away from the docking station).

As per claims 39 and 49, Song *et al.* teaches a robot, additionally comprising ceasing movement of the robot when the battery voltage has fallen to at least the second predetermined level (see col. 2, lines 42-49).

As per claim 40, Song *et al.* teaches a robot, wherein the locating at least one signal for the docking station includes seeking and detecting a signal from the docking station and detecting the signal from the docking station for a second time (see fig. 1 as described above).

As per claims 41, 42, 50, 51, Song *et al.* teaches a robot, wherein moving the robot toward the docking station includes: moving the robot toward an obstacle; moving the robot along the obstacle to a point proximate the docking station.

As per claims 43-45, 52 and 53, Song *et al.* teaches a, wherein moving the robot toward the docking station includes: the robot performing at least one wiggle movement toward the docking station (see col. 6, lines 48-59), note that to advance until the bumper is pressed to a certain extent implies wiggling; terminating movement of the robot when the robot has reached the docking station and is in docking contact with the docking station (see col. 6, lines 48-59 as noted above); docking contact includes electrical contact between the robot and the docking station, this electrical contact facilitating electricity for moving from the docking station to the robot for charging at least one battery in the robot (see col. 6, lines 48-59 as noted above).

As per claim 54, Song *et al.* teaches a, wherein the docking contact includes electrical contact between the robot and the docking station, this electrical contact facilitating electricity for moving from the docking station to the robot for charging at least one battery in the robot (see fig. 1 as described above).

Allowable Subject Matter

5. Claims 38-56 and 62-67 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or fairly suggest with respect to claims 38 and 48, a docking method wherein while the battery voltages remain between the first predetermined level land a second predetermined level, the second predetermined level less than the first predetermined level, moving the robot forward the docking station; with respect to claims 62 and 65, a docking system that continues the docking process including operating the robot until the power level has fallen to a second level, the second predetermined level being less than the first predetermined level.

7. Claims 2-4, 11-14, 23-25 and 29-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 2 and 23, the prior art of record fail to teach or fairly suggest a robot, wherein a processor is additionally programmed to continue the docking process until the power level has fallen to a second predetermined level, the second predetermined level being less than the first predetermined level in combination with the other features of the claimed invention.

As to the reference not teaching a robot for detecting a signal from a docking station (see col. 1, lines 36-39, wherein "The robot cleaner is also required to sense the location of the external charging apparatus so as to automatically return to the external charging apparatus when it is necessary to recharge the battery.").

As to the reference not teaching any signal for continuing docking sent between the docking station and the robot or vice versa (see col. 1, lines 36-39 and lines 58-63).

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (571) 272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

m. marc

McDieunel Marc

Tuesday, November 08, 2005

MM/

THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
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